in thicknesses occur due to marginal variations in sea level and source of sediments. Structurally the basin is complex and the compressive forces which prevailed caused tight folding and thrusting. Oil permeates zones in the Eocene, Miocene, and lower Pliocene. Control for the accumulation of the oil is largely structural, though the variations in sedimentary conditions naturally have a decided bearing on the details of occurrence and volume of production.

Studies of the geologic conditions in the Ventura basin have been carried on since 1856. These first reports were concerned mainly with general observations on the character of the rocks, though evidence of bitumens were noted. After 1865 when the importance of the large seepages in California were advertised by Professor Silliman, the public became more interested in petroleum. Actual drilling commenced in 1870 and, as this activity increased, it led to exploration through the use of geology. W. L. Watts began his surveys in California in 1902 and in 1906 published his first work dealing with the petroleum geology of Los Angeles and Ventura counties in a bulletin of the California State Mining Bureau. Following this George H. Eldridge of the U. S. Geological Survey began a systematic study of the geology in relation to petroleum and this was published in 1907. A second geological survey was made by Kew in 1917 and published by the U. S. Geological Survey in 1925. Since then numerous intensive studies have been made by various oil companies and some reports have been published on specific areas.

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A Formation of Late Miocene and Early Pliocene Age on the North Slope of the Santa Susana Mountains, California.

It is proposed to recognize a new formation for coarse- and fine-grained sedimentary rocks of late Miocene and early Pliocene age on the north slope of the Santa Susana Mountains in the east-central part of the Ventura basin. These rocks were included by Kew (1924) in the Modelo formation. They overlie and intertongue with shale of late Miocene age in the Modelo formation, and are overlain by the Pico formation of Pliocene age. The formation is well exposed near Tapo Canyon in the type region straddling the boundary between Los Angeles and Ventura counties.

Two main types of sedimentary rocks are represented in the new formation: generally light-colored sandstones and conglomerates, and brown-weathering shales and mudstones. Marked lateral changes in lithology are common. The coarser-grained rocks are lenticular, but the shales and mudstones are fairly persistent.

In the type region both the lower and upper boundaries are apparently gradational. In any one section the first thick-bedded pebbly sandstone lens above the shales and thin-bedded sandstones of the Modelo marks the base of the new formation. The top is drawn at the base of the first soft olive-gray siltstone containing rusty concretions, a type of lithology characteristic of the Pico formation.

Along the north limb of the Pico anticline the formation has the following exposed thickness: East Canyon, 1,825 feet; Wiley Canyon, 1,750 feet; Towsley Canyon, 2,200 feet; Pico Canyon, 3,000 feet. At Tapo Canyon the formation is 4,350 feet thick.

Vertical grading is present on two scales. Units tens of feet thick consist of conglomerate at the base, changing upward to thick-bedded sandstone, then alternating sandstone and mudstone, and finally mudstone at the top. Individual beds within these large units commonly are graded. This grading, the abundance of extremely angular blocks of mudstone as clasts in the conglomerates, and the presence of lump structures throughout the formation suggest the possibility that submarine slumps and turbid currents were important agents in the deposition of the coarser-grained rocks.

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A Philosophy of Oil-Finding.

The fundamentals of oil-finding include factors other than the commonly recognized essentials of the art of prospecting, such as efficient organization, informed scientific acumen, careful engineering and skilled techniques. In the most effective search for oil there is an element which, however intangible it may be, involves homely and solid virtues. Faith, the venture spirit, persistence and something very like humility in the attitude of the prospector toward the unknown—the unexplored or incompletely explored area—are of the essence of the art. The unknown is our true frontier. Despite nearly 100 years of study, our actual knowledge of the occurrence of oil in the earth's crust is still woefully inadequate. As a guide to our active exploration it serves us admirably. But as experience has repeatedly proved, to refrain from venturing because of what we flatter ourselves we know, is often a tragic mistake.

In foreign countries a number of factors combine to retard the search for oil, but in our own country dogma with relation to the occurrence of oil is the most formidable obstacle in the way of the discovery of new oil fields.

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Geology of the Northern Margin of the San Fernando Valley, Los Angeles County.

The area discussed comprises 50 square miles of sedimentary section extending from the San Fernando Reservoir to Tujunga and northward from the Verdugo Mountains-Pacoima Hills high to the pre-Tertiary crystalline rocks of the western San Gabriel Mountains.